

1 1. In a system that includes a client system in communication with a server system
2 having a front-end server and one or more back-end servers, wherein the client system
3 requests content that is available on the one or more back-end servers through the front-end
4 server, and wherein the content may include resource identifiers that are specific to a
5 particular communication protocol, a method of mapping a connection between a client
6 system and a front-end server to a connection between a front-end server and a back-end
7 server, the method comprising the front-end server performing:

8 an act of receiving a request for content from the client system, the request
9 being received in accordance with a first communication protocol;

10 an act of identifying a particular back-end server where the content is
11 available;

12 an act of adding protocol information to the request for content, the protocol
13 information identifying the first communication protocol; and

14 an act of sending the request for content to the particular back-end server,
15 the request being sent in accordance with a second communication protocol.
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17 2. A method as recited in claim 1 further comprising the act of receiving a
18 response from the particular back-end server in accordance with the second
19 communication protocol, the response including content with one or more resource
20 identifiers that are specific to the first communication protocol.
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22 3. A method as recited in claim 2 further comprising the act of sending the
23 response to the client system in accordance with the first communication protocol.
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1 4. A method as recited in claim 3 wherein the first communication protocol
2 comprises a secure communication protocol, the method further comprising the act of
3 encrypting the content sent to the client system.

4
5 5. A method as recited in claim 2 wherein the one or more resource identifiers are
6 uniform resource locators.

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8 6. A method as recited in claim 1 wherein the first communication protocol
9 comprises a secure communication protocol and the second communication protocol
10 comprises an insecure communication protocol.

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12 7. A method as recited in claim 6 further comprising the act of decrypting content
13 received from the client system.

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15 8. A method as recited in claim 6 wherein the first communication protocol
16 comprises a secure sockets layer protocol.

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18 9. A method as recited in claim 1 wherein the second communication protocol
19 comprises the hypertext transfer protocol, and wherein the protocol information comprises
20 a hypertext transfer protocol header.

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22 10. A method as recited in claim 9 wherein the header is one of a "Via:" and a
23 "User-agent:" header.

1 11. A method as recited in claim 9, wherein the header comprises “Front-End-
2 HTTPS: on”.

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4 12. A method as recited in claim 9 further comprising a hypertext transfer protocol
5 router at the front-end server performing an act of tracking information associated with the
6 client system’s request for content.

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8 13. A method as recited in claim 1 wherein the request for content comprises a
9 request for one of email content and Web content.

1 14. In a system that includes a client system in communication with a server system
2 having a front-end server and one or more back-end servers, wherein the client system
3 requests content that is available on the one or more back-end servers through the front-end
4 server, and wherein the content may include resource identifiers that are specific to a
5 particular communication protocol, a method of mapping a connection between a client
6 system and a front-end server to a connection between the front-end server and a back-end
7 server, the method comprising the front-end server performing:

8 a step for communicating with the client system using a first
9 communication protocol, the communicating including a request for content from
10 the client system;

11 a step for communicating with a particular back-end server using a second
12 communication protocol, the communicating including the request for content from
13 the client system; and

14 a step for mapping the communication with the client system using the first
15 communication protocol to the communication with the particular back-end server
16 using the second communication protocol, wherein the mapping includes an act of
17 adding protocol information to the request for content that identifies the first
18 communication protocol.

19
20 15. A method as recited in claim 14 wherein the step for communicating with a
21 particular back-end server using a second communication protocol comprises an act of
22 receiving a response from the particular back-end server, the response including content
23 with one or more resource identifiers that are specific to the first communication protocol.
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1 16. A method as recited in claim 15 wherein the one or more resource identifiers
2 are uniform resource locators.

3
4 17. A method as recited in claim 15 wherein the step for communicating with the
5 client system using a first communication protocol comprises an act of sending the
6 response to the client to the client system.

7
8 18. A method as recited in claim 17 wherein the first communication protocol
9 comprises a secure communication protocol and the second communication protocol
10 comprises an insecure communication protocol.

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12 19. A method as recited in claim 18 wherein the step for mapping the
13 communication with the client system using the first communication protocol to the
14 communication with the particular back-end server using the second communication
15 protocol comprises the acts of:

16 decrypting content received from the client system;

17 encrypting content sent to the client system; and

18 tracking information associated with the client system's request for content.

19
20 20. A method as recited in claim 14 wherein the second communication protocol
21 comprises the hypertext transfer protocol, and wherein the protocol information comprises
22 a hypertext transfer protocol header.

21. A method as recited in claim 20 wherein the hypertext transfer protocol header comprises "Front-End-HTTPS: on".

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1 22. In a system that includes a client system in communication with a server
2 system, the server system including a front-end server and one or more back-end servers,
3 wherein communication between the client system and the front-end server uses a first
4 communication protocol and wherein communication between the front-end server and the
5 one or more back-end servers uses a second communication protocol, a method of
6 providing content through the front-end server to the client system such that the content
7 complies with the first communication protocol, the method comprising one of the one or
8 more back-end servers performing:

9 an act of receiving a request for content from the front-end server, the
10 request for content being received in accordance with the second communication
11 protocol, wherein the request for content includes protocol information identifying
12 the first communication protocol;

13 an act of generating the requested content, wherein one or more resource
14 identifiers included in the requested content are specific to the first communication
15 protocol; and

16 an act of sending the requested content to the front-end server in accordance
17 with the second communication protocol.

18
19 23. A method as recited in claim 22, wherein the first communication protocol is a
20 secure communication protocol, and wherein the second communication protocol is an
21 insecure communication protocol.

1 24. A method as recited in claim 22, further comprising the front-end server
2 performing:

3 an act of decrypting the request for content received from the client system;
4 and
5 an act of encrypting the requested content being sent to the client system.

6
7 25. A method as recited in claim 22, wherein the act of generating the requested
8 content further comprises an act of changing the one or more resource identifiers included
9 in the requested content to correspond with the first communication protocol.

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11 26. A method as recited in claim 25, wherein the first communication protocol is
12 HTTPS and the second communication protocol is HTTP, wherein the act of changing the
13 one or more resource identifiers further comprises an act of changing an "HTTP" portion
14 of a resource identifier to "HTTPS".
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1 27. In a system that includes a client system in communication with a server system
2 having a front-end server and one or more back-end servers, wherein the client system
3 requests content that is available on the one or more back-end servers through the front-end
4 server, and wherein the content may include resource identifiers that are specific to a
5 particular communication protocol, a computer program product for implementing a
6 method of mapping a connection between a client system and a front-end server to a
7 connection between the front-end server and a back-end server, comprising:

8 a computer readable medium for carrying machine-executable instructions
9 for implementing the method at a front-end server; and

10 wherein said method is comprised of machine-executable instructions for
11 performing the acts of:

12 receiving a request for content from the client system, the request
13 being received in accordance with a first communication protocol;

14 identifying a particular back-end server where the content is
15 available;

16 adding protocol information to the request for content, the protocol
17 information identifying the first communication protocol; and

18 sending the request for content to the particular back-end server, the
19 request being sent in accordance with a second communication protocol.

1 28. A computer program product as recited in claim 27, the method comprised
2 further of machine-executable instructions for performing the act of receiving a response
3 from the particular back-end server in accordance with the second communication
4 protocol, the response including content with one or more resource identifiers that are
5 specific to the first communication protocol.

6
7 29. A computer program product as recited in claim 28, the method comprised
8 further of machine-executable instructions for performing the act of sending the response
9 to the client system in accordance with the first communication protocol.

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11 30. A computer program product as recited in claim 29 wherein the first
12 communication protocol comprises a secure communication protocol and the second
13 communication protocol comprises an insecure communication protocol, the method
14 being comprised further of machine-executable instructions for performing the acts of:

15 decrypting content received from the client system; and

16 encrypting the content sent to the client system.

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18 31. A computer program product as recited in claim 28 wherein the one or more
19 resource identifiers are uniform resource locators.

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21 32. A computer program product as recited in claim 27 wherein the second
22 communication protocol comprises the hypertext transfer protocol, and wherein the
23 protocol information comprises a hypertext transfer protocol header.

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1 33. A computer program product as recited in claim 32, the method comprised
2 further of machine-executable instructions for performing the act of using a hypertext
3 transfer protocol router at the front-end server to track information associated with the
4 client system's request for content.

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6 34. A computer program product as recited in claim 27 wherein the request for
7 content comprises a request for one of email content and Web content.